

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in the captioned patent application:

Listing of Claims:

1. (Currently Amended) A method of fitting an auditory stimulation system having a plurality of channels to a recipient, the method comprising:

establishing ~~an initial~~ a first current level profile comprising a first current level setting for each of ~~at least some of the plurality of channels;~~ channels;

applying stimulation using the ~~initial~~ first current level profile;

obtaining a response to the applied stimulation; ~~stimulation~~; and

~~adjusting a plurality of the current level settings of the initial current level profile based on the obtained response;~~

based on the obtained response, adjusting more than one of the first current level settings to effectuate a tilt of the first current level profile about a pivot point on the first current level profile and thereby generate a second current level profile; and

applying stimulation using the second current level profile.

2-38. (Cancelled)

39. (New) An apparatus configured to interface with an auditory stimulation system having a plurality of channels, wherein the apparatus is further configured to establish a first current level profile comprising a first current level setting for each of the plurality of channels; display a graphical representation of the first current level profile; instruct the auditory stimulation system to apply stimulation using the first current level profile; obtain a response to the applied stimulation; adjust, based on the obtained response, more than one of the first current level settings to effectuate a tilt of the first current level profile about a pivot point on the profile and thereby generate a second current level profile; and provide the second current level profile to the auditory stimulation system for use in applying stimulation using the second current level profile.

40. (New) The apparatus of claim 39, wherein to establish the first current level profile the apparatus is configured to measure evoked compound action potential (ECAP) thresholds for at least one channel of the auditory stimulation system; and interpolate the first current level profile from the measurements.

41. (New) The apparatus of claim 39, wherein to establish the first current level profile, the apparatus is configured to use a statistical analysis of recipient mapping data over a number of recipients in establishing the first current level profile for a particular recipient.

42. (New) The method of claim 39, wherein to establish the first current level profile for the particular recipient, the apparatus is configured to perform psychophysical measurements of the particular recipient in combination with a statistical analysis of recipient mapping data over a number of recipients, to thereby determine the first current level profile for the particular recipient.

43. (New) The apparatus of claim 39, wherein to effectuate the tilt, the apparatus is configured to increase or decrease each of the more than one of the first current level settings by a derived amount.

44. (New) The apparatus of claim 43, wherein to effectuate the tilt, the apparatus is configured to adjust the current level settings of channels located on one side of the pivot point in a particular direction and adjust the current level setting in the opposite direction for channels located on the other side of the pivot point.

45. (New) The apparatus of claim 44, wherein the auditory stimulation system is configured to be implanted in a cochlea and comprises a plurality of electrodes for applying stimulation to the cochlea, wherein to effectuate the tilt, the apparatus is configured to increase the first current level setting for channels corresponding to electrodes positioned in the apical region of the cochlea and decrease the first current level setting for channels corresponding to electrodes positioned in the basal region of the cochlea.

46. (New) The apparatus of claim 44, wherein the auditory stimulation system is configured to be implanted in a cochlea and comprises a plurality of electrodes for applying stimulation to the cochlea, wherein to effectuate the tilt, the apparatus is configured to decrease the first current level setting for channels corresponding to electrodes positioned in the apical region of the cochlea and increase the first current level setting for channels corresponding to electrodes positioned in the basal region of the cochlea.

47. (New) The apparatus of claim 39, wherein the applied stimulation is derived from a broadband sound signal.

48. (New) The apparatus of claim 47, wherein the broadband sound signal is a live speech signal.

49. (New) The apparatus of claim 47, wherein the broadband sound signal is an artificial signal.

50. (New) The apparatus of claim 47, wherein the broadband sound signal is a recorded signal.

51. (New) The method of claim 1, wherein the tilt is a linear tilt.

52. (New) The method of claim 1, wherein the tilt is a non-linear tilt.

53. (New) The method of claim 1, wherein the second current level profile is representative of a recipient's threshold or maximum comfort current level profile.

54. (New) The method of claim 1, wherein establishing the first current level profile comprises:
measuring evoked compound action potential (ECAP) thresholds for at least one channel of the auditory stimulation system; and
interpolating the first current level profile from the measurements.

55. (New) The method of claim 1, wherein establishing the first current level profile comprises:
performing a statistical analysis of recipient mapping data over a number of recipients and subsequently using the analysis in establishing the first current level profile for a particular recipient.

56. (New) The method of claim 1, wherein establishing the first current level profile comprises:
performing psychophysical measurements of a particular recipient in combination with statistical analysis of recipient mapping data over a number of recipients to thereby determine a suitable first current level profile for the particular recipient.

57. (New) The method of claim 1, wherein the tilt is effectuated by increasing or decreasing each of the more than one of the first current level settings by a derived amount of current.

58. (New) The method of claim 57, wherein to effectuate the tilt, the method comprises:
adjusting the current level settings of channels located on one side of the pivot point in a particular direction; and
adjusting the current level setting in the opposite direction for channels located on the other side of the pivot point.

59. (New) The method of claim 58, wherein adjusting the more than one of the first current level settings comprises:

before adjusting the more than one of the first level settings, positioning, in a cochlea of a recipient, an electrode array comprising a plurality of electrodes for applying stimulation for the channels; and

increasing the first current level setting for channels corresponding to electrodes positioned in the apical region of the cochlea and decreasing the first current level setting for channels corresponding to electrodes positioned in the basal region of the cochlea.

60. (New) The method of claim 58, wherein adjusting the more than one of the first current level settings comprises:

before adjusting the more than one of the first level settings, positioning, in a cochlea of a recipient, an electrode array comprising a plurality of electrodes for applying stimulation for the channels; and

decreasing the first current level setting for channels corresponding to electrodes positioned in the apical region of the cochlea and increasing the first current level setting for channels corresponding to electrodes positioned in the basal region of the cochlea.

61. (New) The method of claim 1, wherein the applied stimulation is derived from a broadband sound signal.

62. (New) The method of claim 61, wherein the broadband sound signal is a live speech signal.

63. (New) The method of claim 61, wherein the broadband sound signal is an artificial signal.

64. (New) The method of claim 61, wherein the broadband sound signal is a recorded signal.

65. (New) The method of claim 1, further comprising:

- establishing an initial current level profile comprising an initial current level setting for each of the plurality of channels;

- wherein establishing the first current level profile comprises:

- increasing each initial current level setting by a fixed amount until the stimulation signal can just be detected by the recipient, indicative of the stimulation reaching a threshold level.

66. (New) The method of claim 65, wherein the second current level profile comprises a second current level setting for each of the channels, the method further comprising:

- increasing at least one of the second current level settings and decreasing at least one of the second current level settings to determine an optimum T-level profile.

67. (New) A method of fitting an auditory stimulation system having a plurality of channels to a recipient, the method comprising:

- establishing a first current level profile comprising a current level setting for each of the plurality of channels, wherein establishing the first current level profile comprises:

- measuring a first threshold for each channel of a first subset of the plurality of channels, wherein the first subset comprises fewer than all of the channels; and

- determining from the measured first thresholds the current level setting for each channel of the plurality of channels;

- applying stimulation using the first current level profile;

- obtaining a response to the applied stimulation; and

- adjusting a plurality of the current level settings of the first current level profile based on the obtained response.

68. (New) The method of claim 67, wherein the measured first thresholds are evoked compound action potential (ECAP) thresholds.

69. (New) The method of claim 67, wherein the measured first thresholds are set as the current level settings for the channels of the first subset.

70. (New) The method of claim 67, wherein determining from the measured first thresholds the current level setting for each channel of the plurality of channels comprises:

extrapolating from the measured first thresholds the current level settings for each channel of a second subset of the plurality of channels.

71. (New) An apparatus configured to interface with an auditory stimulation system having a plurality of channels, the apparatus comprising:

means for establishing a first current level profile comprising a first current level setting for each of the plurality of channels;

a graphical display means configured to display a graphical representation of the first current level profile;

means for instructing the auditory stimulation system to apply stimulation using the first current level profile;

means for obtaining a response to the applied stimulation;

mean for adjusting, based on the obtained response, more than one of the first current level settings to effectuate a tilt of the first current level profile about a pivot point on the profile and thereby generate a second current level profile; and

means for providing the second current level profile to the auditory stimulation system for use in applying stimulation using the second current level profile.